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ABSTRACT

A study investigated the relationship between reading to a child, the child's awareness of print, and the child's concept of reading. Twenty-four kindergarten children and 24 three-year-old children at a day care center were randomly assigned to three groups. Three times a week for four weeks, each child in each group was read a book in a one-to-one situation. Those children in the first group received the "active" treatment, with the reader pointing to the text and commenting about it. Children in the second group received the "passive" treatment, with the reader indicating the text but making no comments about it. The children in the third group served as a control, with the reader neither pointing to the text nor commenting on it. After the four-week treatment period, all children were tested for their concepts of reading and print. The results suggested that small amounts of directed attention to print and to the reading act over an extended period of time could help a young child form an accurate concept of reading--one that includes the understanding that people read words. (FL)

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THE CONNECTION BETWEEN PRINT AWARENESS AND CONCEPTS OF READING IN YOUNG CHILDREN

A Research Report Presented to the
Thirteenth Annual National Conference on
Language Arts in the Elementary School

by

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In 1966 Dr. Delores Durkin published the results of two longitudinal research projects in which she studied children who were able to read before they entered first grade. Her work was a leading force in a new interest in the beginning stages of reading. Various groups of people were beginning to ask the question, "Can children be taught to read in the kindergarten?" Sutton (1969), Hillerich (1965), McKee and Brzeinski (1966), and Schoephoerster, Barnhart, and Loomer (1966) found that not only could children learn to read in the kindergarten but that these gains in achievement were maintained throughout the elementary years if appropriate adjustments were made in first through sixth grade reading programs to accommodate these early readers. This evidence gave credence to Durkin's finding that children who entered school already reading maintained their academic advantage over their non-early reading peers.

It should not have been surprising, however, to find that kindergarten children could learn to read. There have been reports of children four, three, and even two years of age being taught to read. When Davidson (1931) provided bright, average, and dull children, all with a mental age of four years, with a daily reading training program, all of the children made some progress in reading, ranging from the ability to recognize a few words to the ability to read at a second grade level. Terman (1918) reported that Martha, a twenty-six and a half month old child who had been systematically taught by her father since she was nineteen months old, could read over 700 words. Martha's father conceded, however, that securing and keeping the interest of the child was of prime importance. He found that he needed to rely on praise, games, and rewards to keep Martha's interest. A more recent

account of early reading was given by William Fowler (1962). He began daily systematic reading training of his own daughter when she was twenty-four months of age. At the end of nine months Velia had learned 250 words and could read three and four word sentences. Fowler noted, however, that some evidence of both psychosocial disturbance and reduced intellectual performance appeared which could be linked to the reading training program (p. 277).

The question that needs to be asked, then, is not "Can the young child be taught to read?" but "What is it about reading that the young child is capable of understanding the doing so that reading becomes a meaningful and nonthreatening activity?" Fitts and Posner (1967) have isolated three sequential phases in the development and refinement of any skill. First, in the cognitive phase the learner tries to understand both the nature of the task and what it demands as well as the necessary components and their functions. In the second stage, the associative phase, the skill is practiced either as a whole or as isolated component parts. The third and final stage, the autonomous phase, is the time when the skill requires less processing and can be carried out while the learner is engaged in other perceptual and cognitive activities.

In applying this theory to the acquisition of the reading skill, Oliver (1976) points out that the early cognitive phase, the time when the learner comes to understand the nature of the reading task and what it involves, is a necessary step in learning to read; but that it is too often assumed that children have acquired these concepts naturally. He writes:

> Doesn't everyone know that reading is looking at what has been written in order to figure out what it ways? Surely children must know what reading and writing are all about by the time

> they come to school. After all, they've been watching lots of television and they have a very sophisticated command of their language. (pp. 31-32)

Downing and Thackray (1975) describe the normal state of the beginning reader as one of "cognitive confusion"--a state of confusion over the whole process of reading. They claim that most children move "out of this fog" as they get a clearer understanding of the nature of the learning and the problem-solving tasks that are required.

Research supports Downing and Thackray's contention that children entering school are confused about the nature and purpose of reading. In a landmark study, Jessie Reid (1966) conducted extensive interviews with twelve five-year-old children in their first year in the infants' class at an Edinburgh city school. She found that for these children reading was a mysterious activity, to which they came with "only the vaguest of expectancies" (p. 60). They had little idea of the purpose and use of reading or what the activity consists of. Reid also found that these children had great difficulty in understanding the abstract technical terms which adults use to talk about language, terms such as "word," "letter," and "sound."

Downing's replication of Reid's research (1970) supported her findings. Weintraub and Denny (1965) found that more than one-fourth of the first graders they interviewed failed to verbalize an intelligible idea of the reading act and that only twenty per cent of the children saw reading as a cognitive process. When Johns and Ellis (1976) asked over 1600 students in grades one through eight "What is reading?" sixty-nine per cent of the sample gave responses that were essentially irrelevant or meaningless.

Downing and Oliver (1973-74) concluded that young children do not have the same concept of a spoken word as their teachers and suggest that reading

teachers not assume that their beginning pupils understand linguistic concepts such as "word." Studies by Meltzer and Herse (1969), Mickish (1974), Holden and MacGinite (1972), and Kingston, Weaver, and Figa (1972) indicate that even after as much as a year of reading instruction, children have inadequate graphic or auditory conceptions of a "word," although as children become better readers, their concepts become more accurate. Oliver's study (1975) of seventy-eight three to five-year-old Indian children indicated that by age five, children were beginning to understand that reading has something to do with printed words more than with pictures.

Downing and Thackray (1975) conclude that the development of these basic concepts is one of the key factors in beginning reading success and that this factor can be modified through the simplification of the learning tasks presented to children in their early experiences in reading. How, then, can the young child learn the concepts about reading and print which are essential prerequisites to successful reading. Vygotsky (1962) warned that

> . . . the direct teaching of concepts is fruitless. A teacher who tries to do this usually accomplishes nothing but empty verbalism, a parrotlike repetition of words by the child, simulating a knowledge of the corresponding concepts but actually covering up a vacuum. (p. 83)

Ausubel (1965) adds that ". . . the learning behavior of the preoperational child is largely regulated by overt action rather than verbal mediation" (p. 14).

Downing (1973) notes that early concepts about reading and print are not easy for a child to learn since they are not overt behaviors. He writes:

> A particular difficulty in learning to read is that, unlike many other skills, it is not possible for the non-reader to imitate the actions of the reader. For example, the child cannot see exactly what the reader is doing nor is it clear why the reader does what he does. (p. 179)

As early as 1908 Edmund Huey was espousing the importance of reading to young children, noting that young children thus learned the basic concepts about reading and print.

> So, almost as naturally as the sun shines in, in these sittings on the parent's knee, he comes to feel and to say the right parts of the story or rhyme as his eye and finger travel over the printed lines. . . (p. 332)

Lefevre writes:

> Probably the best way to prepare a very young child for reading is to hold him in your lap and read aloud to him, over and over again, stories that he likes from the world's treasury of children's literature, while the child follows the text with eyes and ears. Thus, with the printed page before him, the learner enjoys a real introduction to the relationship of graphic symbols to language. The printed page talks. It talks on purpose to the child. . . . (p. 36)

The young child, then, must first become familiar with the visual qualities of the marks on paper. Studies of early readers and good readers show that this is, indeed, the case. Durkin (1961) found that common factors which appear to have contributed to the children's early reading were an exposure to books and oral reading by an adult or sibling which not only provided a reading model but also demonstrated what reading was all about. Studies of early readers by Plessas and Oakes (1964), Evanechko, Forester, and Reinhard (1976), Price (1976), King and Friesen (1972), and Briggs and Elkind (1973) substantiate the evidence that these children had a more ready access to books and to persons willing to read to them and a more avid interest in words in the environment than their non-early reading counterparts.

As children are read to by adults or siblings, they can discover for themselves what reading actually involves and that it is the print that carries the message. Doake (1977) put it this way:

> At some stage they will make an important discovery about the stories they are hearing. . . . They will become aware, although not necessarily with a conscious realization, that the source of the story they are hearing is not in the pictures or in the reader's head, but is actually on the pages in the black squiggles that the reader has been pointing to from time to time. (pp. 1-2)

The Bullock Report (1975) confirmed the idea that the young child learns the fundamental concepts about reading and print by being read to--wherever the print might exist.

> Every time a parent reads to a child the child is learning that by some curious means the lines of print can be converted into stories which he can enjoy. When children are "helping" with cooking and their mother reads aloud the directions from the cookery book they can see that this absorbing and enjoyable activity draws upon print. Letters, advertisements, labels, traffic signs are just a few examples of opportunities for parents to help children understand the purpose of reading. . . (pp. 99-100)

It appears, then, that there is a relationship between reading to a child, the child's awareness of print, and the child's concept of reading. Oliver (1976) states that reading to children is ". . . a basic activity for developing an idea of the purpose of reading" (p. 33). If the book-reading situation is itself the source of data from which children construct rules that govern the reading process (Shickedanz, 1978), then the <u>how</u> of story reading is critically important. What could this mean in terms of parents or other adults reading to young children? How can the adult help the child get the idea that it is the print that carries the message?

In dealing with this area of the early stages of reading, this study attempted to answer the following questions:

1. What relationship exists between a child's awareness of print and the child's concept of reading?

2. What are the effects of systematically calling attention to print on a child's awareness of print and concept of reading?

3. What differences in awareness of print and concept of reading occur between three-year-olds and kindergarten children?

No attempt was made to teach the child reading skills involved in decoding words. Rather, this study focused on that early stage of reading in which concepts of reading and print are developed. A book-reading situation was provided in which the child had the opportunity to "catch" the idea that reading involves looking at print.

A pilot study involving sixteen preschool children from 3.0 to 5.5 years of age was carried out to determine the feasibility of the design and to test the measuring instruments. As a result, several changes were made both in the design of the instruments and in the design of the study itself.

The decision was made to continue the study with three-year-old children since that group of subjects displayed the greatest variability in responses on the tasks of the measurement instruments. Further, the study was extended to include kindergarten children. It was felt that if kindergarten children did not understand that it is printed words that people read, then strength would be given to the premise that this underlying concept could be indirectly taught to preschool age children and, indeed, should be taught to them.

Therefore, a screening procedure had to be devised to sift out those children who did not understand that it is printed words that people read, if there were any such children in kindergarten classes. It was decided that putting a child into the reading act itself would provide the best setting for asking the child several questions about reading. The researcher chose the book Rosie's Walk by Pat Hutchins as the screening tool. This book was simple

enough for kindergarten children to memorize after hearing it once or twice so that they would be willing to "read" it to the researcher. In addition, the book had six double pages where there was no text at all. The researcher wanted to find out what the children would do or say on those textless pages as they read the book.

The screening itself took place as follows. The researcher read Rosie's Walk to each kindergartener in a one-to-one situation on two consecutive days. Only the text was read. No comments were made about any of the story or pictures unless these comments were child-initiated. On the third day, the researcher asked each child to read the book to her. Not one kindergartener refused to "read" the book, although some "read" more than others. When the child finished reading the book, the researcher asked several questions--the first being the most general.

1. How did you know what to say when you were reading this book?
2. On this page (one with text) you said "_____." How did you know to say that?

   On this page (one with no text) you said "_____" (or you didn't say anything). Why? (or why not?)
3. If your teacher (or your mom or dad) were reading this book, what do you think he or she would say on this page? How would he or she know to say that?

Some of the children responded on the first question that they looked at the words or that they sounded out the words. Most, however, said that they remembered it. On the second question many children said that they looked at the pictures on pages with text but that on pages with no text they said nothing because there were no words or letters or "names."

If a child did not mention words or point to the text in response to the first or second question, the researcher asked the third question. Some children then responded that the adult would look at the words to know what to say on a particular page.

There were, however, some kindergarten children who were unable to indicate that they understood the concept that people read printed words. Several specifically said that people looked at the pictures to know "what to read." This group of children was then used as the kindergarten subjects in the study.

114 kindergarten children from seven classes in two elementary schools of two neighboring school districts were screened. Twenty-four of these 114 children or 21.1% of the kindergarteners screened were selected to be one group of subjects in the study.

The other group of subjects for the study were twenty-four children enrolled in three-year-old classes at a preschool or day care center at least three times per week. All of the schools and centers were located within a ten-mile radius of a midwestern university community.

There was an equal number of boys and girls in each age group. The subjects were then randomly assigned to one of three treatment groups--Experimental Group A, Experimental Group B, or Control Group C--thus creating twelve subgroups of four children each. The average age of the three-year-old group was three years, eight months; the average age of the kindergarten group was five years, ten months.

The subjects of Group A received the treatment which was termed "active." Three times a week for four weeks each child was read a book in a one-to-one situation during which the child's attention was systematically called to

the print. This meant that the reader ran her finger smoothly under the text as it was read. Twice during the reading of the book, the reader would stop after reading a randomly chosen page, point to a particular word or phrase, and say, "Here's where it says _____." In addition, two times during the reading session, after reading a different page without pointing to the text, the reader would ask the child, "Where do you think it says _____?" The child was given ample opportunity to respond to the question. If the child was incorrect, the correct place was then shown and reread. If the child was correct, the reader would respond, "You're right," and reread the page pointing to the print.

The subjects of Group B received the treatment termed "passive." Three times a week for four weeks, each child was read a book in a one-to-one situation during which the reader ran her hand smoothly under the text as it was read. However, no specific comments were made about the print. Neither was the child asked to locate any text.

The subjects of Group C comprised the control group. Three times a week for four weeks, each child was read a book in a one-to-one situation, but the reader neither pointed to the print nor asked the child to locate specific text.

Four books were used for the treatment period. The books that were used were chosen on the basis of variety in size, content, placement of print on the page in relation to the illustrations, and type of illustrations. In addition the books were selected on the basis of their simplicity. They contained fewer than twenty words per double page spread so that pointing to the print did not detract from the story line or from the illustrations. The books were short enough to keep the attention of a three-year-old child but stimulating enough to interest a six-year-old child.

The books that were used during the treatment period included:

Ahrenholz, Eileen C. Animal Dictionary. Boston: Houghton Mifflin Company, 1973.

Alexander, Martha. We Never Get To Do Anything. New York: The Dial Press, 1970.

Martin, Bill. The Haunted House. New York: Holt, Rinehart, and Winston, 1970.

Shaw, Charles G. It Looked Like Spilt Milk. New York: Harper and Row, Publishers, 1947.

The child was, for the most part, allowed to choose which one of the books would be read during each reading session. The procedure worked as follows so that each child heard each of the four books at least twice during the treatment period.

Session 1	Reader brought all four books, and the child chose which one would be read.
Session 2	Reader brought only three books, amotting the selection read during the previous session, and allowed the child to choose which of these would be read.
Session 3	Reader brought only two books, omitting the books read during the two previous sessions, and allowed the child to choose which of these would be read.
Session 4	Reader brought only the one book that had not been read during any of the three previous sessions. For this session, the child had no choice of the book to be read.
Sessions 5-8	Repeat of Sessions 1-4. Note that the order of the books selected could have been different.

Sessions 9-12 Reader brought all four books each time and allowed the child to choose which one would be read. During these last four sessions, the child could show a definite preference for one book.

Only one book was read during each session. Any amount of talking about the story or pictures in the book was allowed if this were child-initiated. If a child in Group B or Group C initiated conversation about particular words or pointed to them and asked what they were, the reader answered the question or accepted the comment but did not elaborate or probe for more questions. For Group A it was left up to the discretion of the reader to determine on which page of the book to make specific comments about the print or to ask the child to locate print.

Each reading session lasted approximately five minutes. After each session with the child, the reader completed a Reading Session Report indicating which book was read, reading behaviors of the child, comments by the child, or specific incidents with the print.

After the four-week treatment period, all forty-eight children were individually tested for their concepts of reading and print. The testing was done in two sessions to avoid fatigue on the child's part. The total testing time was approximately thirty minutes and was recorded on tape so that the tester was not hampered with writing responses.

It was felt that no existing test was adequate for the purposes of this study. The language requirement of tests often masks actual concepts that young children possess. Therefore, a test was devised that could be administered in a format that allowed the child to demonstrate ideas with objects rather than verbally explain ideas. The test consisted of four parts:

Picture Sorting Task

The children were shown a series of sixteen photographs which depicted persons of verying ages engaged in daily activities or which showed common household items. As the child was shown each photograph, the researcher asked "Could this person be reading?" or "Is this something people could read?" Depending on the initial response of the child, the researcher probed for more information with questions such as "What do you think this person is doing?" "What do you think this is?" "Is there anything here that a person could read?"

The child thus sorted the photographs into two groups--one of persons who could be reading or things that could be read and one of persons not reading or things that persons could not read. The children performed the entire task on two successive testing sessions, thus making possible a total score of 32.

The two successive administrations allowed the researcher to calculate a reliability coefficient for this task of .772 for the three-year-old group and .827 for the kindergarten group.

Picture Print Discrimination Task

The children were shown a series of four five by eight inch cards; on each card were six pictures and the word for one of the pictures. This word was placed in a different position on each of the cards. The subjects were asked to tell everything they saw on the card. The researcher wanted to find out if the subjects would say that they saw a word. On the second, third, and fourth card, if the subject did not mention the word, the researcher asked, "Where do you think it says _____?"

Book Reading Task

The subjects were asked to read the book Rosie's Walk to the researcher. This book had been read to the subjects during the previous session so that it was familiar to them. When the child finished "reading" the book, the researcher asked "How did you know what to say when you were reading this book?" Depending on the response of the subject, the researcher asked more probing questions. This procedure was carried out in the same manner as the screening procedure for the kindergarten subjects. The additional questions included:

"When you were reading this book, on this page you said '_____.' How did you know to say that?"

"When you were reading this book, on this page you didn't say anything. Why not?"

"If (some adult) were reading this book, what do you think he or she would say on this page? How would he or she know to say that?"

For some children it was necessary to repeat the questions two or three times to get a clear idea of what the child was thinking and saying. The researcher wanted to find out whether or not the subjects would somehow indicate that persons would look at the print when they read the book.

Interview Questions

The child was asked six questions about reading. The researcher wanted to find out whether these subjects could use specific linguistic terms about reading and whether they would relate reading to print. The questions included:

Why do people read?

What do people do when they read?

Who reads at your house?

What do they read?

Who reads to you at home?

What can you read?

These questions, however, were not all asked at the same time during the testing. Rather, they were casually introduced at specific times during the testing. It was thus hopes that the child would not be burdened with too much talking at one time and would feel less "on the spot." In addition, the questions were specifically placed so as not to contaminate the data obtained from the other tasks.

The testing itself was done in two sessions, with one day between the two sessions. The order of the testing went as follows:

Session I

1. Questions: Why do people read?
   What do people do when they read?
2. Picture Sorting Task, trial 1
3. Questions: Who reads at your house?
   What do they read?
4. Picture Print Discrimination Task
5. Researcher read Rosie's Walk to the subject

Session II

6. Question: Who reads to you at home?
7. Picture Sorting Task, trial 2
8. Question: What can you read?
9. Book Reading Task

In addition to the data collected from each child, two questionnaires were administered--one to the parents of the child and one to the teacher at the day care center, preschool, or public school. These questionnaires obtained information on the child's reading "ability," reading interest, and reading background. This information was used to determine if there were wide differences in experience that could account for differences in performance on the various tasks.

The return rate for the questionnaires was 75% from the subjects' parents and 75% from the subjects' teachers. By examining the responses on the questionnaires it was determined that on the whole, the three-year-old subjects were getting similar kinds of reading experiences both at home and at the day care centers and preschools. The children were being read to at home by a parent, other adult, or sibling on the average of three to four times a week. They were also read to daily at their schools, although this reading was done mainly in large groups. Likewise, the kindergarten subjects had similar reading environments both at home and at school. In addition, all of the kindergarten subjects were involved in a formal reading program either at the readiness level or at the preprimer level. It was felt, then, that differences in performance on the various test tasks within age groups could not be directly attributed to differences in experience.

Since the data is less than one week old, only preliminary analysis of it has been made. However, several interesting results appeared that may be attributed to differences in the three treatment groups.

Picture Sorting Task

Tables 1 and 2 show the mean scores for each of the groups and sources of variance on this task. The errors on the two trials were split approximately

Table 1

Mean Scores: Picture Sorting Task

TREATMENT GROUP	AGE 3		AGE K		Total	
EA	$\bar{X}_b$=28.0	$\bar{X}_g$=20.0	$\bar{X}_b$=31.5	$\bar{X}_g$=31.5	$\bar{X}_b$=29.8	$\bar{X}_g$=25.8
	s_b=2.71	s_g=2.83	s_b=0.57	s_g=0.57	$\bar{X}_{EA}$=27.8	
EB	$\bar{X}_b$=16.8	$\bar{X}_g$=18.5	$\bar{X}_b$=27.0	$\bar{X}_g$=31.2	$\bar{X}_b$=21.9	$\bar{X}_g$=24.8
	s_b=0.96	s_g=3.70	s_b=5.83	s_g=1.50	$\bar{X}_{EB}$=23.4	
CC	$\bar{X}_b$=23.2	$\bar{X}_g$=20.2	$\bar{X}_b$=26.5	$\bar{X}_g$=31.0	$\bar{X}_b$=24.8	$\bar{X}_g$=25.6
	s_b=5.79	s_g=3.20	s_b=5.80	s_g=0.82	$\bar{X}_{CC}$=25.2	
Total	$\bar{X}_b$=22.7	$\bar{X}_g$=19.6	$\bar{X}_b$=28.3	$\bar{X}_g$=31.2	$\bar{X}_b$=25.5	$\bar{X}_g$=25.4
	$\bar{X}_3$=21.2		$\bar{X}_K$=29.8		$\bar{X}_T$=25.5	

Total Possible Score = 32
Number of Subjects = 48
Number of Subject in each Cell = 4

EA = Experimental Group A
EB = Experimental Group B
CC = Control Group C
3 = three-year-old group
K = kindergarten group

Table 2

Analysis of Covariance: Picture Sorting Task

Source	SS	df	MS	F
Sex (A)	0.083	1	0.083	0.007
Treatment (B)	154.167	2	77.084	6.350**
Age (C)	901.333	1	901.333	74.224**
A X B	102.173	2	51.086	4.208*
A X C	108.003	1	108.003	8.897**
B X C	48.673	2	24.336	2.005
A X B X C	18.503	2	9.252	0.762
Within cell (exper. error)	437.000	36	12.139	
Total	1769.935	47		

*p < .05
**p < .01

50%-50% for the three-year-old group and 60%-40% for the kindergarten group. Twenty-three of the twenty-four three-year-old subjects made a total of 261 errors for an average of 11.3 errors per subject. Only twelve of the twenty-four kindergarten subjects accounted for the total of 53 errors for an average of 4.4 errors per kindergarten subject.

On this task age as a main effect was significant at the .01 level. Age was also significant at the .01 level for each of the three treatment groups. This result should not be startling; rather it supports the idea that concept formation takes place over time as a result of both training and experience.

Sex as a main effect was not significant. From Table 1 notice that the mean scores of the total groups of boys and girls are nearly equal--25.5 for the boys and 25.4 for the girls.

However, the interaction between sex and age produced an intriguing result. Overall the interaction between sex and age was statistically significant at the .01 level. For the three-year-old subjects, the boys outperformed the girls (22.7-19.6); for the kindergarten subjects, the girls outperformed the boys (31.2-28.3). What could account for this flipflop? It was not surprising to find the kindergarten girls scoring higher than the kindergarten boys; other kinds of tests reveal this same phenomenon. It was surprising, however, to find the three-year-old boys outscoring the three-year-old girls. This aspect of the study bears replication.

Treatment group as a main effect was also significant at the .01 level. The differences in scores between Group A and Group B were significant at the .01 level; between Group A and Group C they were significant at the .05 level;

between Group B and Group C they were not signficant. A quick glance at this data would lead a person to think that some of the subject in Group B were being confused by the pointing procedure and that it was necessary to have some kind of verbal exchange (as for Group A) to make clear what the reader was doing.

The interaction of sex and treatment group was significant at the .05 level. The difference between the scores of boys and girls in Group A was significant at the .05 level; in Group B and Group C it was not signficant.

Neither the interaction of age and treatment group nor the triple interaction of age/sex/treatment group was statistically significant.

Which pictures accounted for errors in sorting? The errors tended to be made on pictures of articles with print on them (tomato soup can, sampler, cereal box, hand lotion bottle) or on pictures of persons using print but not merely reading books (grocery shopping, reading a cereal box while eating). Six pictures accounted for 72% of the errors made by the kindergarten subjects; Eight pictures (including five of the six pictures that were difficult for the kindergarten subjects) accounted for 90% of the errors made by the three-year-old subjects. For these pictures the subjects said either that people could not read these items or that these people could not be reading. No subject made an error on the photographs of people reading a storybook and a newspaper. One kindergarten child labeled all of the pictures as reading situations or things that could be read. Six three-year-old subjects gave an interesting response to the photograph of street signs. These subjects said that the sign said "stop" but that people could not <u>read</u> it.

Young children seem to first associate reading with books and then expand their concept (by experience or training or both) to include print of all kinds.

Picture Print Discrimination Task

Results on this task did not discriminate between treatment groups. Seven of the kindergarten children (one in Group A, five in Group B, and one in Group C) made errors in locating the word on the card; all errors were made on card two. Thirteen of the three-year-old subjects (four in Group A, five in Group B, and four in Group C) made a total of twenty errors--eleven on card two, five on card three, and four on card four. It seemed that the subjects learned how to do the task on the successive cards. This task needs to be reworked, possibly to include one card with no word on it.

Book Reading Task

Twenty-two of the twenty-four kindergarten subjects indicated that people read words. Five of these children were able to say this only after much probing by the researcher. Two children never mentioned words or letters in connection with reading; rather they said that people looked at the pictures to know what to say. Both of these children were in Group C and both scored 31 on the picture sorting task. Perhaps these children have become confused by the term "reading pictures" which is used both by their teachers and by their reading program.

Eight of the three-year-old subjects indicated that people read words--five in Group A, one in Group B, and two in Group C. Fourteen children (two in Group A, six in Group B, and six in Group C) responded either that people look at the pictures to know what to say when they read or that they did not know how people knew what to say when they were reading. Two children (one in Group A and one in Group B) were inconsistent in their responses.

This task shows the effect of the kindergarten program on the kindergarten subjects and the effect of the treatment on the three-year-old subjects. Most of the kindergarten children quickly learned that people read print regardless of where the print is located. Some may still be confused, however, even at the middle of the school term.

The three-year-old subjects in the active treatment group (Group A) had the benefits of a person talking with them specifically about print, finding print in books, and using terminology associated with reading. This experience seems to have significantly affected their responses on the picture sorting task and positively affected their responses on the book-reading task. This fact is more impressive when the length of treatment is considered. Each subject spent approximately one hour (in twelve sessions) with the researcher. The amount of time spent in "direct teaching" was minimal; yet the differences in responses were large.

Concept formation takes place over a long period of time. It would appear that small amounts of directed attention to print (both print in books and print in the environment) and to the reading act over an extended period of time could help a young child form an accurate concept of reading--one that includes the understanding that people read words.

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